

REMARKS

This Amendment is responsive to the Office Action mailed on April 21, 2004. Claims 1, 7, 10, 12, 19-21, 23, 27, and 28 are amended herein. Claim 29 is new. Claims 1-29 are pending.

Figure 1 has been objected to as failing to include the legend "Prior Art". Applicant submits herewith a replacement drawing for Figure 1 which now includes the legend "Prior Art". Withdrawal of the objection to the drawings is respectfully requested.

Claims 1, 2, 5-9, 11, 14, 15, 18, 19, 27 and 28 are rejected under 35 U.S.C. § 102(a) as being anticipated by prior art described in the application (PAA).

Claims 3, 4, 10, 12, 13, 16, 17 and 20-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over PAA in view of Rhoads (US 5,636,292).

Applicants respectfully traverse these rejections in view of the amended claims and the following comments.

Discussion of Amended Claims

Independent claims 1, 27, and 28 are amended herein to clarify that a first copy of data segments are pre-processed to provide at least first corresponding pre-processed segments with embedded information representing a first logical value, and a second copy of the data segments are pre-processed to provide at least second corresponding pre-processed segments with information representing a second logical value that is different than said first logical value. Particular ones of the first and second pre-processed segments are then assembled in accordance with the control signal to form the composite data signal.

Therefore, with Applicants' invention as claimed in claims 1, 27, and 28, two copies of the same data segments are separately pre-processed to produce first and second pre-processed segments, each of which has respectively different first and second logical values. The control signal, which designates the successive logical values to be provided in the composite data

signal, indicates which of the first and second data pre-processed data segments are assembled to form the composite data signal. See, for example, Applicants' Figure 2 and the corresponding description on pages 14-15.

Claims 7, 10, 12, 19-21, and 23 are amended to conform to the amendments to claim 1.

Claim 29 is new. Support for claim 29 can be found, e.g., in Figure 2 and in Applications specification at page 7, lines 13-31 and page 13, line 17 through page 18, line 10.

Discussion of Prior Art Described in Application (PAA)

Claims 1, 2, 5-9, 11, 14, 15, 18, 19, 27 and 28 stand rejected under 35 U.S.C. § 102(a) as being anticipated by PAA. This rejection is respectfully traversed. An anticipation rejection requires that each and every element of the claimed invention as set forth in the claim be provided in the cited reference. See *Akamai Technologies Inc. v. Cable & Wireless Internet Services Inc.*, 68 USPQ2d 1186 (CA FC 2003), and cases cited therein. As discussed in detail below, PAA does not meet the requirements for an anticipation rejection.

Applicants respectfully submit that the Examiner's rejections of the claims in view of PAA are based on a misunderstanding of PAA and in particular the concept illustrated in prior art Figure 1. In rejecting the above claims, the examiner indicates that Applicants' claimed "first corresponding preprocessed segments with embedded information" are equivalent to packaged data U(0), U(1), ... of Figure 1 and that Applicants' claimed "second corresponding pre-processed segments with information" are equivalent to the content frames C(N-1)...C(1), C(0) of Figure 1 (Office Action, page 2).

Applicants respectfully submit that the Examiner's interpretation of the prior art described in connection with Figure 1 is incorrect. The data U(0), U(1),... are not pre-processed segments that contain embedded information. These frames (U(0), U(1),...) are just the binary user data bits that may optionally include headers/trailers or error correction bits that are to be embedded into the content frames. Accordingly, the content frames C(N-1)...C(1), C(0) shown in Figure 1, are the original content data prior to embedding; these frames are not pre-processed frames which contain information representing a second logical value. The only embedding

described in connection with Figure 1 takes place by the data embedding module 120, that embeds the content frames $C(N-1) \dots C(1)$, $C(0)$ with the user data bits $U(0)$, $U(1), \dots$. This is clearly described in the specification on page 13, line 17 to page 14, line 4:

“FIG. 1 illustrates a conventional data embedding system 100. The content where the data is to be embedded is assumed to be segmented into N frames, with M samples per frame. For example, the content is shown at 110 with frames $C(N-1), \dots, C(1), C(0)$. User data, e. g., which identifies the user, is processed by a data packaging module 140, which converts the data into binary user data, shown generally at 150 with frames $U(N-1), \dots, U(1), U(0)$. The module 140 can optionally add error correction code, modulation and packet header/trailers to the user data.

A data embedding module 120 aligns the packaged data (as indicated by $U(0)$, $U(1)$ etc...) with the respective content frame ($C(0)$, $C(1)$ etc...), and embeds the i th packaged data bits $U(i)$ 170 into a corresponding i th content frame $C(i)$ 160 to provide an i th embedded data frame 180.”

Applicants' claims as amended herein clarify that a first copy of data segments are pre-processed to provide at least first corresponding pre-processed segments with embedded information representing a first logical value, and a second copy of the data segments are pre-processed to provide at least second corresponding pre-processed segments with information representing a second logical value that is different than said first logical value. Particular ones of the first and second pre-processed segments are then assembled in accordance with the control signal to form the composite data signal.

The PAA relied on by the Examiner merely discloses embedding binary user data $U(N-1)$, $\dots U(1)$, $U(0)$ in the content frames $C(N-1)$, $\dots C(1)$, $C(0)$. The PAA does not disclose or remotely suggest pre-processing first and second copies of the same data segments to obtain first pre-processed segments with embedded information representing a first logical value and second corresponding pre-processed segments with information representing a second, different, logical

value, as claimed by Applicants. Accordingly, the PAA does not disclose or remotely suggest assembling particular ones of the first and second pre-processed segments in accordance with a control signal that designates the successive logical values to form the composite data signal, as claimed by Applicants in claims 1, 27 and 28.

As the prior art described in the application does not disclose each and every element of the invention as claimed, the rejections under 35 U.S.C. § 102(a) are believed to be improper, and withdrawal of the rejections is respectfully requested. See, *Akamai Technologies Inc., supra*.

Applicants respectfully submit that the present invention is not anticipated by and would not have been obvious to one skilled in the art in view of PAA, taken alone or in combination with Rhoads or any of the other prior art of record.

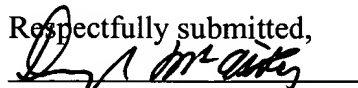
Further remarks regarding the asserted relationship between Applicant's claims and the prior art are not deemed necessary, in view of the amended claims and the foregoing discussion. Applicants' silence as to any of the Examiner's comments is not indicative of an acquiescence to the stated grounds of rejection.

Withdrawal of the rejections under 35 U.S.C. § 102(a) and 35 U.S.C. § 103(b) is therefore respectfully requested.

Conclusion

The Examiner is respectfully requested to reconsider this application, allow each of the pending claims and to pass this application on to an early issue. If there are any remaining issues that need to be addressed in order to place this application into condition for allowance, the Examiner is requested to telephone Applicants' undersigned attorney.

Respectfully submitted,



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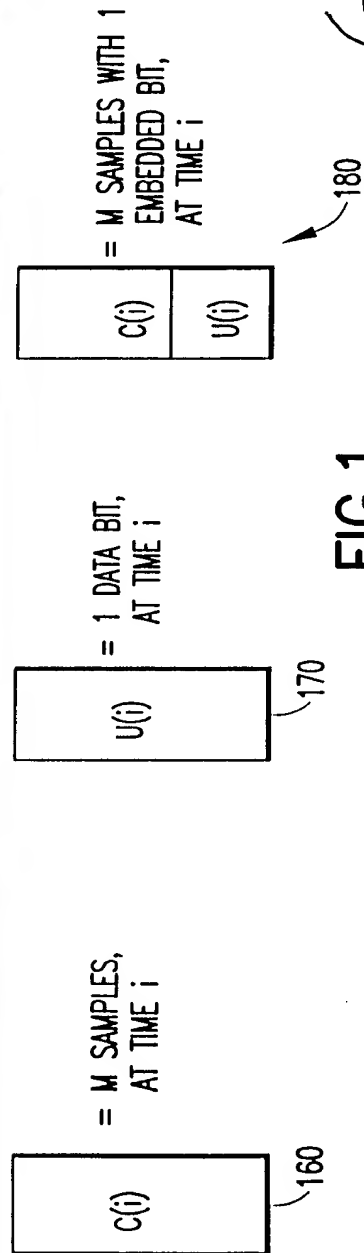
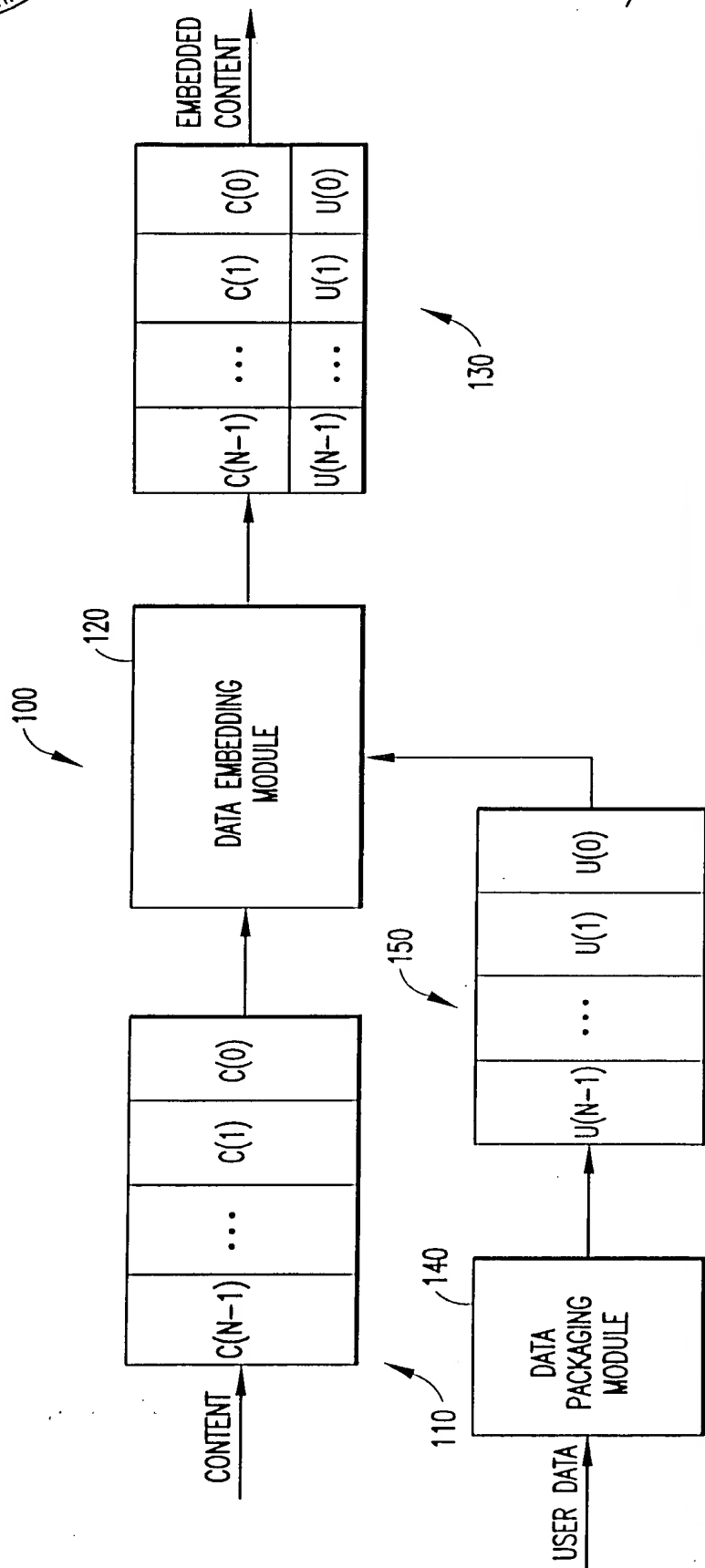


FIG. 1

Added

(PRIOR ART)